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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,732	03/14/2006	Akihiko Nishio	L9289.06112	9737

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EXAMINER
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CASCA, FRED A

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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03/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,732	<b>Applicant(s)</b> NISHIO ET AL.	
	<b>Examiner</b> FRED A. CASCA	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is in response to applicant's amendment filed on December 18, 2008. Claims 1-13 are still pending in the present application.

#### ***Election/Restriction***

2. Applicant's election with traverse of Claims 1-11 and 13 in the reply filed on December 18, 2008 is acknowledged. The traversal is on the ground(s) that *no unduly extensive or burdensome search would be required by the examiner to examine the various claims of the noted Groups in the same application and that from the standpoint of costs to the Applicants it would be additional costs involved in filing, issuance and maintenance fees relating to separate applications if the present Restriction Requirement is maintenance.*

This is not found persuasive because inventions in this application are distinct. The combination as claimed does not require the particulars of the subcombination as claimed because a modulating section that modulates packet data using an M-ary number, as claimed in group 2, do not need to be in the invention of group 1 in order to make the wireless apparatus of group one measure and select the best sub-carrier. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, there would be an additional burden on the examiner to do additional search in a different field of technology, as claimed in group 2. Additionally, the invention of group two which deals with M-ary modulation techniques can be expanded to further details and types of M-ary and modulation techniques that would require even further search by the examiner, and it would be a burden on the examiner to do such additional search in different field of technology as claimed in group 2.

The requirement is still deemed proper and is therefore made FINAL.

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This application contains claim 12 drawn to an invention nonelected with traverse in the reply filed on December 18, 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### **Priority**

3. The Examiner has acknowledged the Applicant's claim for foreign priority under 35 U.S.C. § 119, however, a certified and perfected copy of the priority document, Japanese Application No. 2003-288162, 08/06/2003 NO, has not been submitted to the USPTO. It is respectfully requested that a certified and perfected copy of the priority document be submitted in order to overcome references Baum et al (US 2005/0286547 A1) and Mukai (US 2005/0232135 A1). References Baum and Mukai disclose the main concepts of applicant's claimed invention and can be used as a potential reference in the rejection of applicant's claimed invention.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-7, 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenson (US 6,397,077 B1) in view of Sano et al. (US 2002/0181421 A1).

Referring to claim 1, Jensen discloses a wireless communication apparatus (abstract and Figs. 1-2) comprising:

a measuring section that measures a reception quality of each of a plurality of sub-carriers within a communication band from a received signal (abstract, lines 3-5, col. 3, lines 36-38, col. 4, lines 41-42);

a selecting section that selects a sub-carrier satisfying a predetermined condition relating to a measured reception quality from the plurality of sub-carriers (col. 9, lines 28-32).

Jensen does not specifically disclose a reporting section that gives a reporting of a selection result of the selecting section.

Sano discloses the result of sub-carrier result is provided as an output to a despreading unit (Par. 131).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 2, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 1, and further disclose comprising an acquisition section that acquires information indicating designation from a higher-level station apparatus

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(Sano, Par. 8-9 and Figs. 12 and 18), wherein the selecting section selects a sub-carriers satisfying the predetermined condition in accordance with information indicating the designation (Sano, Par. 8-9 and Figs. 12 and 18 and Jenson, col. 9, lines 28-32).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 3, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 2.

Jenson does not specifically disclose wherein the reporting section transmits reception quality information only for a selected sub-carrier to give a reporting of the selection result.

Sano discloses the result of sub-carrier result is provided as an output to a despreading unit (Par. 131).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 4, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 2.

Jenson does not specifically disclose wherein the acquisition section acquires

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information indicating a number of sub-carriers to be selected, and the selecting section selects the number of sub-carriers in descending order of measured reception quality.

Sano discloses the result of sub-carrier result is provided as an output to a despreading unit (Par. 131).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 5, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 2, and further disclose determined if the performance characteristics of the directional coupler 36 at each of the transmission frequency bands is within desired threshold limits for optimal transmission (Jenson, col. 7, lines 44-45)

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 6, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 3.

Jenson does not disclose wherein the reporting section transmits reception quality information with as elected sub-carrier or with a sub-carrier having a one-to-one correspondence with the selected sub-carrier.

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Sano discloses the result of sub-carrier result is provided as an output to a despreading unit (Par. 131).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 7, the combination of Jenson/Sano discloses the wireless communication apparatus according to 6, and further disclose a spreading section that spreads the reception quality information using a specific spreading code for each user, wherein the reporting section transmits spread reception quality information (Sano, par. 4, 11, 12 and 18).

Referring to claim 9, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 3, and further disclose an error detection section that carries out error detection on the received signal, wherein the reporting section transmits a signal indicating a result of error detection as the reception quality information (Sano, Par. 1, 23-24, 29 and 35).

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 10, the combination of Jenson/Sano discloses the wireless communication apparatus according to claim 3, and further disclose the reporting section transmits a relative value between a value generated based on reception quality of the selected sub-carrier and a predetermined values the reception quality information (Sano, Par. 131).



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It would have been obvious to a person of ordinary skill in the art at time of invention to modify the invention of Jenson in the format claimed by applicant by incorporating the teachings of Sano into that of Jenson, for the purpose of providing an efficient communication system.

Referring to claim 11, the combination of Jenson/Sano discloses a communication terminal apparatus comprising the wireless communication apparatus according to claim 1 (see rejection of claim 1).

Referring to claim 13, claim 13 recites features analogous to the features of claim 1, as rejected above. Thus, the combination of Jenson/Sano discloses all elements of claim 13 (see the rejection of claim 1 above).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jenson (US 6,397,077 B1) in view of Sano et al. (US 2002/0181421 A1) and further in view of well known prior art (MPEP 2144.03).

Referring to claim 8, the combination of Jenson/Sano discloses a communication terminal apparatus comprising the wireless communication apparatus according to claim 3, wherein the reporting section transmits identification information indicating that the selected sub-carrier satisfies the predetermined condition as the reception quality information (Sano, Par. 8-9, 131 and Figs. 12 and 18 and Jenson, col. 9, lines 28-32).

Jenson does not specifically disclose implementing one bit in identifying the information.

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The examiner takes official notice of the fact that one bit in reporting or transmitting electrical communication information is well known in the art.

It would have been obvious to a person of ordinary skill in the art at time of invention to modify the combination in the format claimed by applicant by incorporating the well known concepts of digital communication, for the purpose of providing an efficient communication system.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached at (571) 272-7605.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617